

CALIFORNIA STATE SEISMIC LEGISLATION

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In 1986 the legislature of the State of California enacted a comprehensive law addressing the hazards posed by unreinforced masonry buildings (URMs) which mandated certain actions be taken by January of 1990. Three months before that deadline the San Francisco Bay Area experienced the Loma Prieta earthquake. In the two years which followed, much legislation was proposed to address various aspects of seismic safety. The following discussion highlights legislation which passed into law during that period and which provides incentive for retrofitting privately-owned seismically hazardous structures.

THE URM LAW

In response to the danger posed by the great number of potentially hazardous buildings in California, in 1986 the State legislature enacted the unreinforced masonry building law (Chapter 250, Statutes of 1986: SB547 [Alquist]; Government Code Section 8875 et seq.) The backbone of the State's efforts to address seismically hazardous structures, this legislation, commonly known as the "URM Law," is aimed at mitigating the hazards posed by URMs. The URM Law applies to all jurisdictions in California's Seismic Hazard Zone 4, the region of highest earthquake activity in the nation. Seismic Hazard Zone 4 runs along California's coast from parts of San Diego County in the south through Humboldt County in the north, as well as inland in parts of the State, and contains several areas with a 60% or higher chance of a major earthquake occurring within the next thirty years. Seismic Hazard Zone 4 includes 365 jurisdictions containing roughly 80% of the State's population.

The URM Law spells out three tasks which local jurisdictions in Seismic Hazard Zone 4 are required to accomplish. The first step, which was to be completed by January 1, 1990, requires jurisdictions to identify all URMs which are "potentially hazardous." These are defined in the law as buildings "constructed prior to the adoption of local building codes requiring earthquake resistant design of buildings and constructed of unreinforced masonry wall construction." The law does not require local jurisdictions to identify warehouses and similar buildings with few occupants (excluding those used for emergency services or supplies), residential buildings with five or fewer living units, or structures which are historically or architecturally significant.

The second step required by the URM Law is development and implementation of a mitigation program. Each jurisdiction is free to develop its own program, the only requirement being that legal owners be notified that their buildings are potentially hazardous. The third step, which was also to be accomplished by January 1, 1990, is submission of the information collected and the mitigation plan to the California Seismic Safety Commission.

Note that the Seismic Safety Commission's primary function is to advise the governor and the legislature and coordinate the responsibilities of State agencies on issues regarding seismic safety. The Commission is responsible for establishing programs for earthquake hazard mitigation, and was required by the URM Law to develop an advisory report for local jurisdictions to use when complying with that law. While the Seismic Safety Commission collects the information submitted by local jurisdictions, the URM Law does not give the Seismic Safety Commission any regulatory authority to approve that material. As of June 1992, all but a handful of communities had complied with the requirements of the URM Law.

ENFORCEMENT OF LOCAL ORDINANCES

Case law clearly spells out the authority of local governments to conduct surveys of seismically hazardous structures and to require retrofitting (See: LIABILITY IMPLICATIONS AND CONSIDERATIONS). In addition, California legislation makes it clear that local jurisdictions have the right to abate potentially hazardous buildings (AB1279: Hauser: 1989-90 Legislative Session: Chaptered 90-192). This legislation states that the local jurisdiction's enforcement agency may order a building retrofitted to local building standards if the building is identified by the jurisdiction as being "potentially hazardous to life in the event of an earthquake," and (1) in the event of an earthquake the hazardous condition "would endanger the immediate health and safety of residents or the public," (2) the condition can be corrected with current technology, and (3) the owner has not complied with an abatement order of the enforcement agency. If the owner does not comply, the enforcement agency may apply to the superior court for appointment of a receiver who will obtain a lien against the property and act to abate the hazard in accordance with procedures set out in the legislation.

CONCERNS OF LOCAL JURISDICTIONS:

GIFT OF PUBLIC FUNDS, SEPARATION OF CHURCH AND STATE, AND LIABILITY

Much of this *Handbook* is based on the assumption that jurisdictions have decided to provide retrofitting funds to property owners, and are looking for ideas as to how they might do so. In California the question often arises of whether a particular financing program violates the State constitution's prohibition against a "gift of public funds." This question is directly addressed in some of the legislation enabling particular financing techniques, where the legislation expressly declares that the loans made pursuant to the legislation should not be construed to be gifts of public funds. Local jurisdictions need to consult with their attorneys to ensure that any financing programs which they design, whether or not pursuant to specific legislation, do not violate the constitutional prohibition.

The issue of "separation of church and State" also comes to the minds of those designing financing programs, querying whether it is appropriate for local agencies to provide assistance to religious institutions. The legal questions may be complex. With respect to the constitutional question, so long as a program is designed to finance retrofit of all buildings and not just those put to religious use, in general there is no Federal or State prohibition against local agencies providing assistance to religious institutions. This is articulated in Everson v. Board of Education, 330 U.S. 1, 18 (1946), a case which questioned the use of public tax dollars for parochial school children's transportation to school. In his opinion, Justice Black wrote that the First Amendment "... requires the State to be neutral in its relations with groups of religious believers and non-believers; it does not require the State to be their adversary. State power is no more to be used so as to handicap religions than it is to favor them." The use of taxes in that case was upheld since the government was not being discriminatory.

Where bond financing is involved, the regulations are somewhat different. Generally, if a program is bond financed, it must be designed to finance the retrofit of all buildings not just those put primarily to religious use or, for that matter, to other prohibited use; whether or not a building may be provided bond financing must be decided by bond counsel on a case-by-case basis. The main concern with bond financing, however, is the *type of work* that may be financed rather than which buildings may be eligible. Whether or not a program is being bond financed, local agencies again are advised to seek the opinion of counsel when putting together a financing program to ensure that they are in compliance with these and other relevant State and Federal statutes.

Liability is an issue which frequently comes up in discussions of seismic retrofit, with arguments being made for liability as both an incentive and a disincentive to retrofit. (See: LIABILITY IMPLICATIONS AND CONSIDERATIONS). Jurisdictions may be concerned about their potential liability as a result of the use of public funds to install equipment and construct improvements on private property. California law spells out conditions under which public agencies are liable for injuries caused by dangerous conditions of public property. In 1990 a bill was passed (SB2819: Robbins: 1989-90 Legislative Session: Chaptered 90-1318) which provides that seismic safety or fire sprinkler improvements "which are owned, built, controlled, operated, and maintained by the private owner of the building in which the improvements are installed are not public property or property of a public entity solely because the improvements were financed, in whole or in part, by means of the formation of a Special Assessment district."

SPECIAL ASSESSMENT, MELLO-ROOS AND GENERAL OBLIGATION BONDS

Having decided to offer financing to private owners of hazardous buildings, an obvious next step is for the jurisdiction to identify sources of funds which can be used for that purpose. Special Assessment District financings (California Street and Highways Code - Section 5000 et seq., 10,000 et seq. and 8500 et seq.) and Mello-Roos Community Facilities District financings (California Government Code - Section 53311 et seq.) have recently been explored as sources of loan funds. Generally speaking, these techniques allow local jurisdictions to form districts composed of properties which will participate in the seismic project being financed. A tax or assessment is levied on participants in the district, and bonds are issued which are repaid from the proceeds of the tax or assessment. (See: LOCAL GOVERNMENT FINANCING OPTIONS - MELLO-ROOS COMMUNITY FACILITIES DISTRICTS and SPECIAL ASSESSMENT DISTRICTS)

Special Assessment District and the more recent Mello-Roos District financing mechanisms were designed and have routinely been used to finance public infrastructure, facilities and services. Because the legislation enabling such financings did not originally contemplate their use to fund work on privately-owned structures, the techniques are not easily applied for such use. Nonetheless, Special Assessment bond financing has already been used by certain cities to finance seismic retrofit of privately owned hazardous buildings (See: CASE STUDIES - CITY OF LONG BEACH AND CITY OF TORRANCE) and several jurisdictions are at various stages in the process of creating Mello-Roos districts for that purpose (See: CASE STUDY - CITY OF WEST HOLLYWOOD). Legislation has been passed, and continues to be proposed, aimed at allowing, clarifying, and simplifying use of these techniques to finance retrofit of private structures.

The Mello-Roos legislation was the first to be amended for this purpose. Shortly after the Loma Prieta earthquake in 1989, legislation was passed allowing Mello-Roos districts to be used by jurisdictions located in a disaster area to finance the repair of buildings damaged or destroyed by the earthquake (SBX27: Mello: 1989-90 First Extraordinary Session of the Legislature: Chaptered 90-29X). This legislation also provided for financing of "work deemed necessary to bring buildings, including privately owned buildings, into compliance with seismic safety standards or regulations." This work may be financed through a tax levy on properties in the Mello-Roos district, provided that all the votes cast on the question are in favor of the tax. Work financed using Mello-Roos must be certified by local building officials as necessary to bring the building into compliance with seismic safety standards or regulations. All such work on qualified historical buildings must comply with the State Historical Building Code. Demolition of a building and its replacement with a new building can not be financed, nor can construction of a new building except in Federally declared disaster areas.

Recently legislation was passed to clarify ambiguities regarding the use of Special

Assessment techniques to finance seismic retrofit of privately-owned properties. (AB1700: Farr: 1991-92 Legislative Session: Chaptered.) This legislation states that cities and counties may issue bonds, incur debt and make loans to owners of private buildings for "seismic strengthening of unreinforced buildings and other buildings." The strengthening must be done in accordance with a plan approved by a jurisdiction's building official or drawn up by a registered civil engineer or a licensed architect, one of whom must certify that the work "is necessary for seismic safety reasons or is otherwise legally required for completion of the work or occupancy of the building." As with the Mello-Roos legislation discussed above, demolition and new construction are not permitted, work on historical buildings must be done in accordance with the State Historical Building Code, and "no lot, parcel, or building shall be included in the district without the owner's consent." Addressing a concern regarding affordable housing, the legislation specifies that to the extent funds are used to retrofit residential buildings containing affordable units for lower income households, the owner must enter into an agreement to maintain the number and level of rents of those units. To qualify to issue bonds and make loans under the program, the legislation requires a jurisdiction to have completed its inventory of URM's and to have adopted a mitigation ordinance in accordance with the URM Law.

The least expensive form of loan financing available to government entities is General Obligation bonding: issuance of bonds which are guaranteed by the full faith, credit and taxing power of the issuing jurisdiction. As with Special Assessment and Mello-Roos financings, tools originally designed for public finance, General Obligation bonds have been examined as possible vehicles to provide funding for retrofit of privately owned structures. Legislation was passed (AB1001: Brown: 1991 Legislative Session: Chaptered 91-0658) stating that a city or county may issue bonds for the purpose of seismic strengthening of unreinforced and other buildings. Use of this tool is subject to many of the same conditions described above such as certification that the work is necessary, preservation of low-income housing units, and jurisdictional compliance with the URM Law. Primarily because in California General Obligation bonds must be approved by a two-thirds vote, this technique has not yet been tested.

REDEVELOPMENT AGENCIES

In many cases URM's and other privately-owned seismically hazardous buildings are concentrated in one geographic area within a jurisdiction, such as an old downtown area. Often these geographic areas fall within the purview of a redevelopment agency. As compared with agencies throughout the country, redevelopment agencies in California have uniform structures and powers and generally have the ability to raise more types of revenues.

As a result, in California redevelopment agencies are important resources. Subsequent to the Loma Prieta earthquake, legislation was passed authorizing redevelopment agencies to take those actions they determine necessary to seismically strengthen specified buildings, including historical buildings, in order to bring them into compliance with seismic building code standards (AB356: Cortese: 1989-90 Legislative Session: Chaptered 90-933).

STATE REACHING OUT DIRECTLY TO PROPERTY OWNERS

The discussions above focus on State actions to help local jurisdictions effect retrofitting in their communities. The State also has taken steps to provide incentives directly to property owners. Two such steps are particularly noteworthy.

It is well known that in 1978 California voters passed Proposition XIII, amending the State constitution to limit the amount of *ad valorem* property taxes on real property to 1% of "full cash value." Full cash value is defined as "the county assessor's valuation of real property ... or ... the appraised value of real property when purchased, newly constructed or a change in ownership has occurred" Under Proposition XIII construction undertaken to retrofit hazardous properties could result in increased property taxes, a considerable disincentive to property owners. In 1990 a measure was put on the ballot and the State constitution was amended (SCA33: Rogers: 1989-90 Legislative Session: Chaptered 90-R-57) excluding from the definition of "new construction" seismic retrofitting improvements or improvements utilizing earthquake hazard mitigation technologies. Thus, private owners undertaking seismic retrofitting projects are exempt from the higher property taxes which otherwise would result from new construction.

Many jurisdictions are using disclosure of a building's seismically hazardous condition as an incentive for owners to retrofit (See for example: CASE STUDY - CITY OF PALO ALTO). The idea is twofold: that tenants of a building identified as hazardous might take action to encourage the owner to retrofit, and that the market value of the property will fall once it becomes known that the structure is hazardous, leading the owner to undertake retrofitting in order to maintain or restore the property's value. The State is in the process of taking steps to require disclosure by sellers of residential and commercial properties' seismic condition (AB2959: Klehs: 1989-90 Legislative Session: Chaptered 90-1499 and AB 1968: Arieas: 1991-92 Regular Session: Chaptered 859, respectively). This is particularly significant because it pertains to transfers of all types of residential and commercial property, not just those hazardous structures identified pursuant to the URM Law.

The material described above is but a sample of the many pieces of legislation pertaining to the retrofitting of seismically hazardous structures. Among other things, the California State legislature also has addressed seismic safety of affordable housing, historically significant

structures, and public, hospital, and school buildings, as well as speaking to the issue of earthquake insurance. Additional information on State legislation in this area is available from the Seismic Safety Commission of the State of California. (See: CONTACTS)

FUTURE DIRECTIONS IN HAZARD MITIGATION

Six years have passed since the State's URM Law became effective. Since then, 90 percent of the URM buildings affected by that law have been included in hazard reduction programs. Since the law gave considerable discretion to local governments by allowing them to tailor their own hazard reduction programs, there is quite a wide variation in the effectiveness level of the 190 local programs. The State plans to continue to monitor the status of local government compliance with the URM Law each year. In the meantime, the Seismic Safety Commission has recommended in *California at Risk 1992-1996*, that the State begin to focus on other facilities that pose unacceptable levels of earthquake risk.

Three seismic hazard guidebooks for building owners are currently being developed by the Commission. The first guidebook will disclose typical seismic hazards to buyers of residential buildings. (A publication entitled *Home Buyers Guide to Earthquake Hazards* is currently available from the Bay Area Regional Earthquake Preparedness Project; see: CONTACTS) A similar guidebook is also planned for commercial buildings. These guidebooks will rely on the real estate and lending markets to adjust to a greater awareness of seismic hazards. The guidebooks may spur many owners to reduce seismic hazards voluntarily at the time of sale, much the way owners treat termite repairs. The Commission has plans to issue a third handbook for URM building owners to help them retrofit.

One of the major stumbling blocks in addressing hazardous buildings other than URM is the lack of uniform standards for seismic hazard evaluations, retrofits, and repairs. Lacking standards, most governments are reluctant to require hazard reduction for non-URM buildings, owners are discouraged from evaluating their buildings, and design professionals do not offer consistent advice. There are several efforts to develop new seismic standards. The Office of the State Architect and the Building Standards Commission must develop uniform seismic retrofit guidelines for State government buildings by January 1, 1993. These could eventually become the basis for future standards. The National Science Foundation, the Federal Emergency Management Agency and the Seismic Safety Commission have research programs focussed on this effort. SB 597 (Alquist) proposes to expand this effort to include key private building concerns in the development of new seismic evaluation and retrofit standards.

Hazardous materials are often stored in older buildings that may collapse in earthquakes or otherwise cause leaks capable of endangering the public. The Chemical Emergency Planning and Response Commission, the Office of Emergency Services, and the State Fire Marshall will soon be considering regulatory measures to ensure that seismic safety in buildings storing acutely hazardous materials is addressed.

Two fires caused major losses after the April 1992 Petrolia Earthquakes. These were a stirring reminder of the great fire after the April 1906 earthquake. In Petrolia, four critical minutes were lost when the doors of its firehouse were jammed shut after the first earthquake. By the time fire fighters extricated their equipment, the adjacent building was burning out of control. The Seismic Safety Commission will be asking the State Fire Marshall and other fire safety regulators to consider a statewide program to modify firehouse doors that may stick in earthquakes.

In 1991, the Building Safety Board recommended establishing a major program to reduce earthquake risk in hospitals built prior to the Hospital Seismic Safety Act. The program would address hospital buildings like those that collapsed and killed patients in the 1971 San Fernando Earthquake. The Seismic Safety Commission will be seeking legislation to create this program in the coming years.

In 1991, the legislature passed AB 1964 (Areias) to set a goal of reducing hazards in unreinforced masonry, State-owned government buildings by the year 2000 in conjunction with the Commission's recommended policy on acceptable levels of earthquake risk. This proposal was considerably less ambitious than that offered by the risk policy, which recommends addressing earthquake hazards in all major State government buildings by the year 2000. Governor Wilson vetoed this bill because the State does not yet know the scope of the problem. The Legislature will probably reconsider the need to set a goal once an inventory of State buildings is developed. In the meantime, the Commission plans to encourage State agencies to disclose to the public known seismic hazards in and around existing State government buildings. The State owns a number of buildings that were identified more than a decade ago as posing serious collapse hazards in earthquakes.

The State government is at a critical stage of the URM hazard reduction effort. Despite a significant budget deficit, the State is faced with the costs of retrofitting its own buildings and bridges, as are most local governments. Private building owners and local governments are looking to the State for both a firm commitment and assistance. Most cities, counties, and building owners have expressed a willingness to take more effective steps to reduce their hazards if affordable financing and standards are made available. Accomplishing needed retrofits will take an equally firm commitment from private lending institutions statewide. Increased public awareness as well as financial and insurance pressures will come to bear upon most URM building owners over the next decade to address the seismic hazards in their

buildings. The success of the URM Law and future hazard reduction efforts will be influenced by future earthquakes, the perception of risk, and how they, in turn, influence the public's willingness to allocate money for hazard reduction.

LIABILITY IMPLICATIONS AND CONSIDERATIONS

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BACKGROUND

In examining the issue of retrofitting of unreinforced masonry buildings, the question of potential tort liability is often brought up, sometimes as a disincentive for action (because determining that a building has a problem creates more liability than not knowing about a problem), and sometimes as an incentive for action (that fear of potential liability might act as an economic incentive for action).

The discussion in this chapter is limited to potential *tort liability*. A tort is a civil (as opposed to a criminal) wrong, other than a breach of contract, for which courts award damages. Thus, this discussion does not define liability in the broader, non-legal, context of the prospect of direct building or contents damage.

In assessing the potential for liability, one must understand that there are *4 elements of a tort*, each of which must be proven:

- a pertinent duty must be imposed on the building owner;
- the building owner must have violated that duty;
- the victim must have been injured or suffered damages; and
- there must be a causal connection between the building owner's negligence and the harm suffered by the victim.

The *concept of negligence* is usually based on the rule of reasonableness. How would a reasonable person have acted under similar circumstances? Could the injury or loss have been foreseen? What was the apparent magnitude of the risk? What were the relative costs and benefits of action vs. inaction?

Finally, the remarks in this chapter must be prefaced by noting the fact that after extensive research in the caselaw of 50 States, ABAG was unable to identify a single case where a public or private entity was held to be liable under traditional tort law for personal injury or physical damage directly resulting from earthquakes. Most cases are settled out of court, including the potential cases from the Loma Prieta earthquake in October 1989. In addition, if and when such a case makes it to trial, it will take approximately 2 more years to become an appellate court decision, and only appellate court decisions become legal precedent. However, *there is a very high probability that under the appropriate circumstances, liability will be imposed on either public or private entities for personal injury or property damage resulting from an earthquake.* The majority of this chapter spells out, in as clear a manner as possible, those circumstances for *private* building owners. As stressed below, the liability of the local government associated with those private buildings is exceedingly small.

THE ANALYSIS

The most expeditious way to explain the operation of liability rules is to use a specific scenario. Therefore, assume the City Council of the City of Forward, California directs the implementation of a program to survey its entire city to determine the location of all unreinforced masonry buildings (as directed by California law) and, in addition, its downtown area to determine the location of all concrete buildings built between 1950 and 1970 (determined by the city to be most likely to be the non-ductile concrete buildings prone to pancake collapse in earthquakes). The program is implemented by the building department utilizing in-house engineers and other design professionals. The building department develops a list, including address and owner, and submits the list to the City Council. The City Council notifies the owners of the identified properties, but does not require retrofit of the buildings.

PRIVATE OWNER LIABILITY

(a) No Remedial Action

Building owner Art receives the report and ignores it, doing nothing. A magnitude 7 earthquake strikes the City of Forward and there is significant personal injury and property damage on the property of the passive owner. If the injured parties can prove that the damages were caused in whole or in part by the dangerous conditions identified in the survey, there is a very high probability that liability will be imposed. The property owner has been placed on notice of the dangerous conditions of his property, and his callous reaction to such notice serves as both a legal and a social policy ground for recovery by the plaintiffs. In fact, under the circumstances, the plaintiffs may be able to recover punitive damages.

(b) Owner Study - No Remedial Action

Building owner Brenda receives the notice, engages her own experts, and has them develop a set of recommendations for retrofit. The experts determine that the building is reasonably safe. A magnitude 7 earthquake strikes the area and personal injury and property damage result. This building owner has some liability exposure. Depending on the process by which she selected the design and engineering professionals that she hired, and the directions given to those professionals in evaluating the building, her actions in following these recommendations appear reasonable and non-negligent. However, if there was negligence involved in selecting an unskilled design professional or instructing the professional in a way which clearly militates against a finding of earthquake hazards, that action may be judged negligent and be a source of liability.

(c) Owner Study - Remedial Action

Building owner Clean-Up receives the notice, engages appropriate experts, and implements a retrofit. The earthquake strikes, and personal injury and property damage occur. Is the building owner liable? Mere compliance with the recommendations of the design professionals will not absolutely bar the imposition of liability. However, if the design professionals selected were skilled, it is unlikely that liability will be imposed. On the other hand, if the building owner had knowledge of a major defect which the designers overlooked, and it is this defect which causes either personal injury or property damage, liability will likely be imposed for such injuries or damage.

LOCAL GOVERNMENT LIABILITY

To explore the issue of the liability of the local government associated with private buildings, it is necessary to change the scenario somewhat.

(d) Decision to Survey

Would the City of Future have exposed itself to potential liability had it *not* conducted the survey? More specifically, Dale (the owner of a building) and his customers are severely injured in a moderate earthquake. The owner claims that he would have retrofitted his building had he been notified by the city that a problem existed.

If the city is in the portion of California covered by the California law requiring identification of unreinforced masonry buildings (with certain exceptions, including single-family homes), the city has a mandatory duty to undertake that portion of the earthquake building survey. The city is liable for its failure to comply with a mandatory duty unless it has exercised "reasonable diligence" to discharge that duty.

One possible defense might be that the city did not have sufficient funds to undertake the inventory activities mandated by the State statute in the then current fiscal year. The harm suffered MAY be of the type against which the statute is designed to protect. The issue is foggy because the statute does not require the retrofitting of buildings. Therefore, its primary purpose is to inform and educate property owners. A foreseeable, and desirable, result would be remedial action by the property owner. At the present time, there is no reported case which would help determine if this apparent but secondary purpose of the statute is one on which the plaintiff can base a claim that the statute was "designed" to protect against the injuries and damages which would result from an unreinforced masonry building failure in an earthquake.

The next question is whether the local government has exercised reasonable diligence in the discharge of its duty. In this situation, the City of Future's use of due diligence to locate existing funds or to seek new funds to finance compliance with the law are presumed facts. Therefore, the immunity ought to apply. However, if funds become available in the future, it will be unreasonable for the local government to refuse to comply and immunity would no longer apply.

Even if the mandatory duty doctrine applies, it may be very difficult for Dale and his customers to prove that the failure of the City of Future to inventory the affected building proximately caused the injury which occurred. First, he would have to prove that the retrofit would have retrofitted the building. Second, he must prove that the retrofit would have prevented the particular harm which is the subject of the lawsuit.

With respect to those types of private buildings which are *not* constructed of unreinforced masonry, the question becomes: is there a legal duty on the city to conduct such a survey? A decision to implement such a program by the policy making body of the jurisdiction (in this case, the City Council) should fall under the discretionary immunity provisions of Government Code Sections 830 and 835.

(e) Inspection Process

Is the City of Future liable if the survey program is undertaken, but the inspections themselves or the consequent recommendations were conducted negligently? The California Government Code Section 818.6 immunizes local governments for an inspection process. The immunity would probably extend to the recommendations resulting from such inspections.

THE "ACT OF GOD" DEFENSE

Throughout this discussion, some may assume that the earthquake, being a natural, unpredictable and awe-inspiring event, is an "act of God" for which no liability should be imposed. This is not true.

The "act of God" defense is not triggered by the occurrence of a natural catastrophe which sets into motion a chain of events causing the injury or damage. If the natural catastrophe is one which is reasonably foreseeable and for which reasonable precautions can be taken, then the "act of God" defense is not available. The reasonable building owner must assume that a major earthquake will strike at or near its building while that building is in its ownership. It will be fruitless for the owner of a building to state that the injuries and damages that might result from the failure of its building during an earthquake could not be foreseen by it. Mass

media have disseminated information on earthquake hazards and the technical expertise necessary to evaluate and mitigate some of those hazards is available. The courts will conclude that it is only reasonable to expect responsible property owners to take some precautionary measures.

ECONOMIC ISSUES ASSOCIATED WITH LIABILITY EXPOSURE

Another issue surrounding liability to owners is related to the extent to which property retrofit, by lessening liability exposure, acts as an economic incentive to retrofit. The economic argument is weak for at least two reasons. First, although retrofit reduces the liability exposure, it does not remove it entirely. The second reason relates to, in a practical manner, how liability (whether for earthquakes or other risks) is handled. A typical building owner might have \$2 million in comprehensive general liability insurance coverage (CGL). As a result of learning of the hazard at its building, it might increase its CGL from \$2 million to \$10 million. The incremental cost of such an increase in coverage is minuscule in comparison to its other costs of doing business. Insurance companies offering GLC will typically find it more expensive to determine the type of construction of those buildings owned by the businesses it covers than the risk of loss. However, in the case of large companies which are self-insured, such risks are more likely to have economic weight. As a practical matter, however, these large businesses are unlikely to own the unreinforced masonry buildings typically being discussed for retrofit. They are more likely to own the non-ductile concrete buildings prone to collapse. Liability exposure may function as an economic incentive for these owners.

AUTHORITY OF LOCAL GOVERNMENTS TO CONDUCT SURVEYS AND REQUIRE RETROFITTING

Another legal issue, not associated with liability, surrounds the authority of local governments to conduct surveys and require retrofitting. Unlike the liability issues, there is clear caselaw in this area. Specifically, the police powers case of Barenfield v. City of Los Angeles, 162 Cal.App. 3d 1035, 209 Cal.Rptr. 8 (1984) clearly establishes this authority. It is important to note that the case was determined prior to the passage of the California law requiring many local governments in California to survey unreinforced masonry buildings and notify owners.

The city enacted a local ordinance which required the owners of all buildings constructed prior to October 6, 1933 which have unreinforced masonry bearing walls (with exceptions not applicable to this case) to take remedial actions designed to reduce earthquake-related

hazards. Each of the plaintiffs owned one or more buildings subject to the ordinance. Each of them received an order from the city requiring them to (1) perform seismic retrofitting of the building(s), or (2) submit a structural engineering analysis indicating that the building(s) meet the ordinance standards, or (3) install temporary safeguards so as to qualify for an extension of time to comply with (1), or (4) demolish the building(s). Plaintiffs sued claiming the ordinance constituted an unconstitutional taking of private property without compensation.

In support of its motion, the city offered evidence that unreinforced masonry buildings pose a safety threat to the public and that the ordinance bore a reasonable relationship to the objective of making the public more safe from this hazard. The plaintiffs offered evidence questioning whether the ordinance's provisions had a reasonable relationship to increased safety. The trial court granted the city's motion for summary judgment.

The appellate court noted that the issue of the reasonableness of the ordinance's provisions was brought into question by the plaintiffs' evidence. However, as challenge to the constitutionality of an enactment, the court must defer to the legislature's judgment unless it is manifestly unreasonable, arbitrary or capricious. *The court also upheld, without exposition, the ordinance's regulation of private property use as a valid exercise of the city's police powers and not as a taking.*

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